

Schedule 1: Designer Information

Use one form for each individual who reviews and takes responsibility for design activities with respect to the project.

A. Project Information			
Building number, street name		Unit no.	Lot/con.
Municipality VAUGHAN (WOODBIDGE)	Postal code	Plan number/ other description	
B. Individual who reviews and takes responsibility for design activities			
Name MICHAEL O'ROURKE		Firm HVAC DESIGNS LTD.	
Street address 375 FINLEY AVE		Unit no. 202	Lot/con. N/A
Municipality AJAX	Postal code L1S 2E2	Province ONTARIO	E-mail info@hvacdesigns.ca
Telephone number (905) 619-2300	Fax number (905) 619-2375	Cell number ()	
C. Design activities undertaken by individual identified in Section B. [Building Code Table 3.5.2.1 OF Division C]			
☐ House ☐ Small Buildings ☐ Large Buildings ☐ Complex Buildings ☒ HVAC – House ☐ Building Services ☐ Detection, Lighting and Power ☐ Fire Protection ☐ Building Structural ☐ Plumbing – House ☐ Plumbing – All Buildings ☐ On-site Sewage Systems			
Description of designer's work HEAT LOSS / GAIN CALCULATIONS DUCT SIZING RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY RESIDENTIAL SYSTEM DESIGN per CSA-F280-12		Model: 6001 - QUEENSLAND OPT 2ND - WOB Project: PINE VALLEY PH 2	
D. Declaration of Designer			
I, <u>MICHAEL O'ROURKE</u> declare that (choose one as appropriate): (print name)			
☐ I review and take responsibility for the design work on behalf of a firm registered under subsection 3.2.4. of Division C, of the Building Code. I am qualified, and the firm is registered, in the appropriate classes/categories. Individual BCIN: _____ Firm BCIN: _____			
☒ I review and take responsibility for the design and am qualified in the appropriate category as an "other designer" under subsection 3.2.5. of Division C, of the Building Code. Individual BCIN: <u>19669</u> Basis for exemption from registration and qualification: <u>O.B.C SENTENCE 3.2.4.1 (4)</u>			
☐ The design work is exempt from the registration and qualification requirements of the Building Code. Basis for exemption from registration and qualification: _____			
I certify that:			
1. The information contained in this schedule is true to the best of my knowledge. 2. I have submitted this application with the knowledge and consent of the firm.			
April 14, 2022 Date		 Signature of Designer	

NOTE:

- For the purposes of this form, "individual" means the "person" referred to in Clause 3.2.4.7(1) d) of Division C, Article 3.2.5.1. of Division C, and all other persons who are exempt from qualification under Subsections 3.2.4. and 3.2.5. of Division C.
- Schedule 1 is not required to be completed by a holder of a license, temporary license, or a certificate of authorization, issued by the Ontario Association of Architects. Schedule 1 is also not required to be completed by a holder of a license to practise, a limited license to practise, or a certificate of authorization, issued by the Association of Professional Engineers of Ontario.

Application for a Permit Construct or Demolish – Effective January 1, 2015

SITE NAME: PINE VALLEY PH 2				OPT 2ND - WOB				DATE Apr-22				WINTER NATURAL AIR CHANGE RATE 0.486				HEAT LOSS AT °F. 76				CSA-F280-12							
BUILDER: GOLD PARK HOMES				TYPE: 6001 - QUEENSLAND				GFA: 5653				LO# 96166				SUMMER NATURAL AIR CHANGE RATE 0.162				HEAT GAIN AT °F. 13				SB-12 PACKAGE A1			
ROOM USE				GREAT		KIT		DIN		LIBR		FOY		MUD		PWD											
EXP. WALL				58		56		25		35		38		22		7											
CLG. HT.				11		11		11		11		21		13		11											
FACTORS																											
GRS.WALL AREA		LOSS GAIN		615		594		265		371		783		277		74											
GLAZING				LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN		LOSS GAIN											
NORTH		21.3	16.0	26	553	415	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
EAST		21.3	41.6	0	0	0	0	0	0	0	58	1234	2410	80	1702	3324	0	0	0	0	0	0	0	0	0		
SOUTH		21.3	24.9	0	0	0	0	0	0	41	872	1021	0	0	0	0	0	0	0	0	0	0	0	0	0		
WEST		21.3	41.6	78	1660	3241	134	2852	5568	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
SKYLT.		37.2	101.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
DOORS		25.2	4.3	0	0	0	0	0	0	0	20	505	85	50	1262	213	20	505	85	0	0	0	0	0	0		
NET EXPOSED WALL		4.5	0.8	511	2280	384	460	2051	345	224	1000	168	293	1308	220	653	2913	491	257	1148	193	74	331	56			
NET EXPOSED BSMT WALL ABOVE GR		3.6	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
EXPOSED CLG		1.3	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
NO ATTIC EXPOSED CLG		2.7	1.3	10	27	13	0	0	0	0	10	27	13	204	561	257	0	0	0	0	0	0	0	0			
EXPOSED FLOOR		2.6	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
BASEMENT/CRAWL HEAT LOSS				0		0		0		0		0		0		0		0		0		0		0			
SLAB ON GRADE HEAT LOSS				0		0		0		0		0		0		0		0		0		0		0			
SUBTOTAL HT LOSS				4520		4903		1872		3074		6439		1653		331											
SUB TOTAL HT GAIN				4053		5913		1189		2728		4284		278		56											
LEVEL FACTOR / MULTIPLIER		0.30	0.70			0.30	0.70			0.30	0.70			0.30	0.70			0.30	0.70								
AIR CHANGE HEAT LOSS				3177		3446		1316		2161		4526		1162		233											
AIR CHANGE HEAT GAIN				348		508		102		234		368		24		5											
DUCT LOSS				0		0		0		0		0		0		0											
DUCT GAIN				0		0		0		0		0		0		0											
HEAT GAIN PEOPLE		240		0		0		0		0		0		0		0											
HEAT GAIN APPLIANCES/LIGHTS				1405		1405		1405		1405		1405		0		0											
TOTAL HT LOSS BTU/H				7697		8349		3188		5235		10965		2815		564											
TOTAL HT GAIN x 1.3 BTU/H				7548		10175		3506		5678		6048		393		79											

ROOM USE																					WOB		BAS	
EXP. WALL																					67		175	
CLG. HT.																					10		10	
	FACTORS																							
GRS.WALL AREA	LOSS	GAIN																						
GLAZING																					643		1680	
NORTH	21.3	16.0																			LOSS		GAIN	
EAST	21.3	41.6																			0		0	
SOUTH	21.3	24.9																			0		0	
WEST	21.3	41.6																			0		0	
SKYLT.	37.2	101.5																			0		0	
DOORS	25.2	4.3																			0		0	
NET EXPOSED WALL	4.5	0.8																			35		884	
NET EXPOSED BSMT WALL ABOVE GR	3.6	0.6																			149		20	
EXPOSED CLG	1.3	0.6																			460		2054	
NO ATTIC EXPOSED CLG	2.7	1.3																			346		0	
EXPOSED FLOOR	2.6	0.4																			0		0	
BASEMENT/CRAWL HEAT LOSS																					0		0	
SLAB ON GRADE HEAT LOSS																					0		0	
SUBTOTAL HT LOSS																					0		0	
SUB TOTAL HT GAIN																					0		0	
LEVEL FACTOR / MULTIPLIER																					0		0	
AIR CHANGE HEAT LOSS																					0		0	
AIR CHANGE HEAT GAIN																					0		0	
DUCT LOSS																					0		0	
DUCT GAIN																					0		0	
HEAT GAIN PEOPLE	240																				0		0	
HEAT GAIN APPLIANCES/LIGHTS																					0		0	
TOTAL HT LOSS BTU/H																					8258		30125	
TOTAL HT GAIN x 1.3 BTU/H																					8638		968	

TOTAL HEAT GAIN BTU/H: 79497 TONS: 6.62 LOSS DUE TO VENTILATION LOAD BTU/H: 6156 STRUCTURAL HEAT LOSS: 110146 TOTAL COMBINED HEAT LOSS BTU/H: 116302

SITE NAME: PINE VALLEY PH 2										OPT 2ND - WOB										DATE Apr-22				WINTER NATURAL AIR CHANGE RATE 0.486										HEAT LOSS AT °F. 76				CSA-F280-12																	
BUILDER: GOLD PARK HOMES										TYPE: 6001 - QUEENSLAND										GFA: 5653				LO# 96166				SUMMER NATURAL AIR CHANGE RATE 0.162										HEAT GAIN ΔT °F. 13				SB-12 PACKAGE A1													
ROOM USE				MBR				ENS				BED-2				BED-3				BED-4				BED-5				ENS-2				ENS-3				ENS-4				ENS-5															
EXP. WALL				20				32				18				28				47				16				6				19				6				0															
CLG. HT.				10				9				9				11				10				9				9				9				9				9															
FACTORS																																																							
GRS.WALL AREA				LOSS GAIN				200				288				162				308				470				144				54				171				54				0											
GLAZING				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN				LOSS GAIN											
NORTH				21.3	16.0	0	0	0	0	0	0	0	38	809	607	0	0	0	0	0	0	0	0	0	8	170	128	0	0	0	0	0	0	0	0	0	0	0	0	0															
EAST				21.3	41.6	0	0	0	0	0	0	0	0	0	56	1192	2327	45	958	1870	0	0	0	0	0	0	0	0	0	0	12	255	499	0	0	0	0	0	0	0	0	0													
SOUTH				21.3	24.9	0	0	0	0	22	468	548	0	0	0	0	0	0	0	0	0	19	404	473	0	0	0	0	0	0	0	0	8	170	199	0	0	0	0	0	0	0	0	0											
WEST				21.3	41.6	42	894	1745	8	170	332	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0										
SKYLT.				37.2	101.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0										
DOORS				25.2	4.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0									
NET EXPOSED WALL				4.5	0.8	158	705	119	258	1151	194	124	553	93	252	1125	189	425	1897	319	125	558	94	46	205	35	159	710	120	46	205	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
NET EXPOSED BSMT WALL ABOVE GR				3.6	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
EXPOSED CLG				1.3	0.6	380	488	223	240	308	141	438	562	257	291	373	171	373	479	219	232	298	136	66	85	39	84	108	49	84	108	49	72	92	42	0	0	0	0	0	0	0	0	0	0	0	0								
NO ATTIC EXPOSED CLG				2.7	1.3	0	0	0	0	0	0	0	0	0	75	206	94	30	82	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
EXPOSED FLOOR				2.6	0.4	0	0	0	0	0	0	200	510	86	216	551	93	0	0	0	0	0	0	66	168	28	84	214	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0							
BASEMENT/CRAWL HEAT LOSS				0				0				0				0				0				0				0				0				0				0				0				0							
SLAB ON GRADE HEAT LOSS				0				0				0				0				0				0				0				0				0				0				0				0				0			
SUBTOTAL HT LOSS				2087				2098				2434				3447				3415				1260				629				1287				483				92															
SUB TOTAL HT GAIN				2087				1215				1044				2874				2446				703				229				704				283				42															
LEVEL FACTOR / MULTIPLIER				0.20	0.51			0.20	0.51			0.20	0.51		0.20	0.51		0.20	0.51		0.20	0.51		0.20	0.51		0.20	0.51		0.20	0.51		0.20	0.51		0.20	0.51		0.20	0.51		0.20	0.51		0.20	0.51									
AIR CHANGE HEAT LOSS				1056				1062				1232				1745				1729				638				318				652				245				47															
AIR CHANGE HEAT GAIN				179				104				90				247				210				60				20				60				24				4															
DUCT LOSS				0				0				367				519				0				95				194				0				0				0				0				0							
DUCT GAIN				0				0				278				477				0				25				76				0				0				0				0				0							
HEAT GAIN PEOPLE				240	2	480	0	0	1	240	0	1	240	0	1	240	0	1	240	0	1	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0								
HEAT GAIN APPLIANCES/LIGHTS				1405				0				1405				1405				1405				1405				0				0				0				0				0				0							
TOTAL HT LOSS BTU/H				3143				3160				4033				5711				5144				1898				1041				2132				728				139															
TOTAL HT GAIN x 1.3 BTU/H				5397				1715				3973				6817				5592				3132				356				1093				400				60															

SITE NAME: PINE VALLEY PH 2
BUILDER: GOLD PARK HOMES

OPT 2ND - WOB
TYPE: 6001 - QUEENSLAND

DATE: Apr-22

GFA: 5653 LO# 96166

FURNACE 1

HEATING CFM 1340 COOLING CFM 1340
TOTAL HEAT LOSS 77,195 TOTAL HEAT GAIN 43,032
AIR FLOW RATE CFM 17.36 AIR FLOW RATE CFM 31.14

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35

**FURNACE HEAT LOSS +
HRV / ERV HEAT LOSS
= 80273 BTUH**
\$*LENNOX
ML196UH090XE48C
FAN SPEED

LOW 0

MEDLOW 1080

MEDIUM 1190

MEDIUM HIGH 1340

HIGH 1575

AFUE = 96 %
INPUT (BTU/H) = 88,000
OUTPUT (BTU/H) = **85,600**

DESIGN CFM = **1340**
CFM @ .6" E.S.P.

TEMPERATURE RISE 59 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	0	17	9
R/A	0	0	0	3	1

All S/A diffusers 4"x10" unless noted otherwise on layout.

All S/A runs 5"Ø unless noted otherwise on layout.

RUN #	1	2	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	21	22	23	24
ROOM NAME	GREAT	GREAT	GREAT	KIT	KIT	KIT	KIT	DIN	DIN	LIBR	LIBR	LIBR	FOY	FOY	FOY	MUD	PWD	BAS	BAS	BAS	BAS
RM LOSS MBH.	2.57	2.57	2.57	2.09	2.09	2.09	2.09	1.59	1.59	1.75	1.75	1.75	3.65	3.65	3.65	2.81	0.56	4.26	4.26	4.26	4.26
CFM PER RUN HEAT	45	45	45	36	36	36	36	28	28	30	30	30	63	63	63	49	10	74	74	74	74
RM GAIN MBH.	2.52	2.52	2.52	2.54	2.54	2.54	2.54	1.75	1.75	1.89	1.89	1.89	2.02	2.02	2.02	0.39	0.08	1.07	1.07	1.07	1.07
CFM PER RUN COOLING	78	78	78	79	79	79	79	55	55	59	59	59	63	63	63	12	2	33	33	33	33
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	74	89	72	67	59	45	46	46	10	22	27	31	40	46	37	48	55	82	56	65	71
EQUIVALENT LENGTH	140	130	170	160	170	170	110	120	150	150	110	120	140	110	100	150	130	140	120	150	150
TOTAL EFFECTIVE LENGTH	214	219	242	227	229	215	156	166	160	172	137	151	180	156	137	198	185	222	176	215	221
ADJUSTED PRESSURE	0.08	0.08	0.07	0.08	0.08	0.08	0.11	0.1	0.11	0.1	0.13	0.11	0.1	0.11	0.13	0.09	0.09	0.08	0.1	0.08	0.08
ROUND DUCT SIZE	6	6	6	6	6	6	6	5	4	5	5	5	5	5	5	4	4	6	6	6	6
HEATING VELOCITY (ft/min)	229	229	229	184	184	184	184	206	321	220	220	220	463	463	463	562	115	377	377	377	377
COOLING VELOCITY (ft/min)	398	398	398	403	403	403	403	404	631	433	433	433	463	463	463	138	23	168	168	168	168
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	A	A	A	A	A	B	C	C	C	E	E	E	D	D	D	C	C	B	B	A	A

RUN #	25	26	27	28	29
ROOM NAME	BAS	BAS	BAS	BAS	BAS
RM LOSS MBH.	4.26	4.26	4.26	4.26	4.26
CFM PER RUN HEAT	74	74	74	74	74
RM GAIN MBH.	1.07	1.07	1.07	1.07	1.07
CFM PER RUN COOLING	33	33	33	33	33
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17
ACTUAL DUCT LGH.	39	44	23	41	58
EQUIVALENT LENGTH	140	160	100	130	170
TOTAL EFFECTIVE LENGTH	179	204	123	171	228
ADJUSTED PRESSURE	0.1	0.08	0.14	0.1	0.08
ROUND DUCT SIZE	5	5	5	5	6
HEATING VELOCITY (ft/min)	543	543	543	543	377
COOLING VELOCITY (ft/min)	242	242	242	242	168
OUTLET GRILL SIZE	3X10	3X10	3X10	3X10	4X10
TRUNK	C	D	E	D	A

SUPPLY AIR TRUNK SIZE								RETURN AIR TRUNK SIZE							
TRUNK	STATIC	ROUND	RECT	VELOCITY				TRUNK	STATIC	ROUND	RECT	VELOCITY			
CFM	PRESS.	DUCT	DUCT	(ft/min)				CFM	PRESS.	DUCT	DUCT	(ft/min)			
TRUNK A	429	0.07	10.6	14	x	8	552	TRUNK G	0	0.00	0	0	x	8	0
TRUNK B	184	0.08	7.4	8	x	8	414	TRUNK H	0	0.00	0	0	x	8	0
TRUNK C	838	0.07	13.6	18	x	12	559	TRUNK I	0	0.00	0	0	x	8	0
TRUNK D	337	0.08	9.3	10	x	8	607	TRUNK J	0	0.00	0	0	x	8	0
TRUNK E	501	0.08	10.8	14	x	8	644	TRUNK K	0	0.00	0	0	x	8	0
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0

RETURN AIR #	1	2	3	BR											
AIR VOLUME	275	305	430	0	0	0	0	0	0	0	0	0	0	0	330
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15
ACTUAL DUCT LGH.	76	47	41	1	1	1	1	1	1	1	1	1	1	1	19
EQUIVALENT LENGTH	180	165	140	0	0	0	0	0	0	0	0	0	0	0	145
TOTAL EFFECTIVE LH	256	212	181	1	1	1	1	1	1	1	1	1	1	1	164
ADJUSTED PRESSURE	0.06	0.07	0.08	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	0.09
ROUND DUCT SIZE	9.3	9.3	10.2	0	0	0	0	0	0	0	0	0	0	0	9
INLET GRILL SIZE	8	8	8	0	0	0	0	0	0	0	0	0	0	0	8
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
INLET GRILL SIZE	30	30	30	0	0	0	0	0	0	0	0	0	0	0	30

SITE NAME: PINE VALLEY PH 2
BUILDER: GOLD PARK HOMES

OPT 2ND - WOB
TYPE: 6001 - QUEENSLAND

DATE: Apr-22

GFA: 5653 LO# 96166

FURNACE 2

HEATING CFM 1110 COOLING CFM 1110
TOTAL HEAT LOSS 32,952 TOTAL HEAT GAIN 35,947
AIR FLOW RATE CFM 33.69 AIR FLOW RATE CFM 30.88

furnace pressure 0.6
furnace filter 0.05
a/c coil pressure 0.2
available pressure for s/a & r/a 0.35

**FURNACE HEAT LOSS +
HRV / ERV HEAT LOSS
= 36030 BTUH**
\$LENNOX
ML196UH045XE36B
FAN SPEED

LOW 620

MEDLOW 685

MEDIUM 980

MEDIUM HIGH 1110

HIGH 0

AFUE = 96 %
INPUT (BTU/H) = 44,000
OUTPUT (BTU/H) = **42,800**

DESIGN CFM = **1110**
CFM @ .6" E.S.P.

TEMPERATURE RISE 36 °F

RUN COUNT	4th	3rd	2nd	1st	Bas
S/A	0	0	23	0	0
R/A	0	0	6	0	0

All S/A diffusers 4"x10" unless noted otherwise on layout.

All S/A runs 5"Ø unless noted otherwise on layout.

RUN #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
ROOM NAME	MBR	MBR	MBR	ENS	ENS	BED-2	BED-2	ENS-2	BED-3	BED-3	BED-3	ENS-3	BED-4	BED-4	BED-4	ENS-5	ENS-4	BED-5	BED-5	LAUN	HALL	DRESS	DRESS
RM LOSS MBH.	1.05	1.05	1.05	2.37	0.79	2.02	2.02	1.04	1.90	1.90	1.90	2.13	1.71	1.71	1.71	0.14	0.73	0.95	0.95	0.16	1.52	2.07	2.07
CFM PER RUN HEAT	35	35	35	80	27	68	68	35	64	64	64	72	58	58	58	5	25	32	32	5	51	70	70
RM GAIN MBH.	1.80	1.80	1.80	1.29	0.43	1.99	1.99	0.36	2.27	2.27	2.27	1.09	1.86	1.86	1.86	0.06	0.40	1.57	1.57	1.90	3.52	1.00	1.00
CFM PER RUN COOLING	56	56	56	40	13	61	61	11	70	70	70	34	58	58	58	2	12	48	48	59	109	31	31
ADJUSTED PRESSURE	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.15	0.17	0.17
ACTUAL DUCT LGH.	67	72	83	75	69	85	95	102	79	85	91	86	37	30	42	32	24	28	67	82	34	91	90
EQUIVALENT LENGTH	150	160	240	180	180	180	190	200	170	180	170	160	170	150	140	200	210	180	180	210	110	160	170
TOTAL EFFECTIVE LENGTH	217	232	323	255	249	265	285	302	249	265	261	246	207	180	182	232	234	208	247	292	144	251	260
ADJUSTED PRESSURE	0.08	0.07	0.05	0.07	0.07	0.06	0.06	0.06	0.07	0.06	0.07	0.07	0.08	0.1	0.09	0.07	0.07	0.08	0.07	0.06	0.11	0.07	0.07
ROUND DUCT SIZE	6	6	6	6	4	6	6	5	6	6	6	6	5	5	5	4	4	5	5	6	6	6	6
HEATING VELOCITY (ft/min)	178	178	178	408	310	347	347	257	326	326	326	367	426	426	426	57	287	235	235	25	260	357	357
COOLING VELOCITY (ft/min)	286	286	286	204	149	311	311	81	357	357	357	173	426	426	426	23	138	352	352	301	556	158	158
OUTLET GRILL SIZE	4X10	4X10	4X10	4X10	3X10	4X10	4X10	3X10	4X10	4X10	4X10	4X10	3X10	3X10	3X10	3X10	3X10	3X10	3X10	4X10	4X10	4X10	4X10
TRUNK	B	B	A	B	B	A	A	A	C	C	C	C	D	D	D	C	C	C	B	A	D	A	A

RUN #	ROOM NAME	RM LOSS MBH.	CFM PER RUN HEAT	RM GAIN MBH.	CFM PER RUN COOLING	ADJUSTED PRESSURE	ACTUAL DUCT LGH.	EQUIVALENT LENGTH	TOTAL EFFECTIVE LENGTH	ADJUSTED PRESSURE	ROUND DUCT SIZE	HEATING VELOCITY (ft/min)	COOLING VELOCITY (ft/min)	OUTLET GRILL SIZE	TRUNK
1	MBR	1.05	35	1.80	56	0.17	67	150	217	0.08	6	178	286	4X10	B
2	MBR	1.05	35	1.80	56	0.17	72	160	232	0.07	6	178	286	4X10	B
3	MBR	1.05	35	1.80	56	0.17	83	240	323	0.05	6	178	286	4X10	A
4	ENS	2.37	80	1.29	40	0.17	75	180	255	0.07	6	408	204	4X10	B
5	ENS	0.79	27	0.43	13	0.17	69	180	249	0.07	4	310	149	3X10	B
6	BED-2	2.02	68	1.99	61	0.17	85	180	265	0.06	6	347	311	4X10	A
7	BED-2	2.02	68	1.99	61	0.17	95	190	285	0.06	6	347	311	4X10	A
8	ENS-2	1.04	35	0.36	11	0.17	102	200	302	0.06	5	257	81	3X10	A
9	BED-3	1.90	64	2.27	70	0.17	79	170	249	0.07	6	326	357	4X10	C
10	BED-3	1.90	64	2.27	70	0.17	85	180	265	0.06	6	326	357	4X10	C
11	BED-3	1.90	64	2.27	70	0.17	91	170	261	0.07	6	326	357	4X10	C
12	ENS-3	2.13	72	1.09	34	0.17	86	160	246	0.07	6	367	173	4X10	C
13	BED-4	1.71	58	1.86	58	0.17	37	170	207	0.08	5	426	426	3X10	D
14	BED-4	1.71	58	1.86	58	0.17	30	150	180	0.1	5	426	426	3X10	D
15	BED-4	1.71	58	1.86	58	0.17	42	140	182	0.09	5	426	426	3X10	D
16	ENS-5	0.14	5	0.06	2	0.17	32	200	232	0.07	4	57	23	3X10	C
17	ENS-4	0.73	25	0.40	12	0.17	24	210	234	0.07	4	287	138	3X10	C
18	BED-5	0.95	32	1.57	48	0.17	28	180	208	0.08	5	235	352	3X10	C
19	BED-5	0.95	32	1.57	48	0.17	67	180	247	0.07	5	235	352	3X10	B
20	LAUN	0.16	5	1.90	59	0.17	82	210	292	0.06	6	25	301	4X10	A
21	HALL	1.52	51	3.52	109	0.15	34	110	144	0.11	6	260	556	4X10	D
22	DRESS	2.07	70	1.00	31	0.17	91	160	251	0.07	6	357	158	4X10	A
23	DRESS	2.07	70	1.00	31	0.17	90	170	260	0.07	6	357	158	4X10	A

SUPPLY AIR TRUNK SIZE														RETURN AIR TRUNK SIZE													
	TRUNK	STATIC	ROUND	RECT		VELOCITY		TRUNK	STATIC	ROUND	RECT		VELOCITY		TRUNK	STATIC	ROUND	RECT		VELOCITY							
	CFM	PRESS.	DUCT	DUCT		(ft/min)		CFM	PRESS.	DUCT	DUCT		(ft/min)		CFM	PRESS.	DUCT	DUCT		(ft/min)							
TRUNK A	351	0.05	10.7	10	x	10	505	TRUNK G	0	0.00	0	0	x	8	0	TRUNK O	0	0.05	0	0	x	8	0				
TRUNK B	560	0.05	12.7	14	x	10	576	TRUNK H	0	0.00	0	0	x	8	0	TRUNK P	0	0.05	0	0	x	8	0				
TRUNK C	886	0.05	15.1	18	x	12	591	TRUNK I	0	0.00	0	0	x	8	0	TRUNK Q	0	0.05	0	0	x	8	0				
TRUNK D	225	0.08	8	10	x	8	405	TRUNK J	0	0.00	0	0	x	8	0	TRUNK R	0	0.05	0	0	x	8	0				
TRUNK E	0	0.00	0	0	x	8	0	TRUNK K	0	0.00	0	0	x	8	0	TRUNK S	0	0.05	0	0	x	8	0				
TRUNK F	0	0.00	0	0	x	8	0	TRUNK L	0	0.00	0	0	x	8	0	TRUNK T	0	0.05	0	0	x	8	0				

RETURN AIR #	1	2	3	4	5	6											BR								
AIR VOLUME	230	115	260	130	115	260	0	0	0	0	0	0	0	0	0	0		TRUNK W	390	0.05	11.1	14	x	8	501
PLENUM PRESSURE	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15	0.15		TRUNK X	765	0.05	14.3	16	x	12	574
ACTUAL DUCT LGH.	75	71	71	60	83	65	1	1	1	1	1	1	1	1	1	1		TRUNK Y	720	0.05	13.9	16	x	10	648
EQUIVALENT LENGTH	230	215	195	185	225	190	0	0	0	0	0	0	0	0	0	0		TRUNK Z	345	0.05	10.6	10	x	10	497
TOTAL EFFECTIVE LH	305	286	266	245	308	255	1	1	1	1	1	1	1	1	1	1		DROP	1110	0.05	16.4	24	x	10	666
ADJUSTED PRESSURE	0.05	0.05	0.06	0.06	0.05	0.06	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80	14.80									
ROUND DUCT SIZE	9.1	7	9.1	7	7	9.1	0	0	0	0	0	0	0	0	0	0									
INLET GRILL SIZE	8	8	8	8	8	8	0	0	0	0	0	0	0	0	0	0									
	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X									
INLET GRILL SIZE	30	14	30	14	14	30	0	0	0	0	0	0	0	0	0	0									

TYPE: 6001 - QUEENSLAND
SITE NAME: PINE VALLEY PH 2

LO # 96166
OPT 2ND - WOB

RESIDENTIAL MECHANICAL VENTILATION DESIGN SUMMARY

COMBUSTION APPLIANCES		9.32.3.1(1)
a)	☒ Direct vent (sealed combustion) only	
b)	☐ Positive venting induced draft (except fireplaces)	
c)	☐ Natural draft, B-vent or induced draft gas fireplace	
d)	☐ Solid Fuel (including fireplaces)	
e)	☐ No Combustion Appliances	

HEATING SYSTEM	
☒ Forced Air	☐ Non Forced Air
☐ Electric Space Heat	

HOUSE TYPE		9.32.1(2)
☒ I	Type a) or b) appliance only, no solid fuel	
☐ II	Type I except with solid fuel (including fireplaces)	
☐ III	Any Type c) appliance	
☐ IV	Type I, or II with electric space heat	
☐ Other:	Type I, II or IV no forced air	

SYSTEM DESIGN OPTIONS		O.N.H.W.P.
☐ 1	Exhaust only/Forced Air System	
☐ 2	HRV with Ducting/Forced Air System	
☒ 3	HRV Simplified/connected to forced air system	
☐ 4	HRV with Ducting/non forced air system	
☐	Part 6 Design	

TOTAL VENTILATION CAPACITY		9.32.3.3(1)
Basement + Master Bedroom	<u>2</u> @ 21.2 cfm	<u>42.4</u> cfm
Other Bedrooms	<u>4</u> @ 10.6 cfm	<u>42.4</u> cfm
Kitchen & Bathrooms	<u>7</u> @ 10.6 cfm	<u>74.2</u> cfm
Other Rooms	<u>5</u> @ 10.6 cfm	<u>53.0</u> cfm
Table 9.32.3.A.	TOTAL	<u>212.0</u> cfm

PRINCIPAL VENTILATION CAPACITY REQUIRED		9.32.3.4.(1)
1 Bedroom	31.8	cfm
2 Bedroom	47.7	cfm
3 Bedroom	63.6	cfm
4 Bedroom	79.5	cfm
5 Bedroom	95.4	cfm
TOTAL	95.4	cfm

SUPPLEMENTAL VENTILATION CAPACITY		9.32.3.5.
Total Ventilation Capacity	<u>212</u>	cfm
Less Principal Ventil. Capacity	<u>150</u>	cfm
Required Supplemental Capacity	<u>62.0</u>	cfm

PRINCIPAL EXHAUST FAN CAPACITY	
Model: VANEE V150H	Location: BSMT
<u>150.0</u> cfm	☒ HVI Approved

PRINCIPAL EXHAUST HEAT LOSS CALCULATION				
CFM	ΔT °F	FACTOR	% LOSS	
150.0 CFM	X 76 F	X 1.08	X	0.25

SUPPLEMENTAL FANS		BY INSTALLING CONTRACTOR		
Location	Model	cfm	HVI	Sones
ENS	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-2	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-3	BY INSTALLING CONTRACTOR	50	☒	3.5
ENS-4	BY INSTALLING CONTRACTOR	50	☒	3.5

HEAT RECOVERY VENTILATOR		9.32.3.11.
Model: VANEE V150H	INSTALL 2 HRV / ERV's	
<u>150</u> cfm high	<u>35</u> cfm low	
<u>75</u> % Sensible Efficiency @ 32 deg F (0 deg C)	☒ HVI Approved	

LOCATION OF INSTALLATION	
Lot:	Concession
Township	Plan:
Address	
Roll #	Building Permit #

BUILDER: GOLD PARK HOMES	
Name:	
Address:	
City:	
Telephone #:	Fax #:

INSTALLING CONTRACTOR	
Name:	
Address:	
City:	
Telephone #:	Fax #:

DESIGNER CERTIFICATION	
I hereby certify that this ventilation system has been designed in accordance with the Ontario Building Code.	
Name:	HVAC Designs Ltd.
Signature:	<i>Michael O'Rourke</i>
HRAI #	001820
Date:	April-22

I REVIEW AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED IN THE APPROPRIATE CATEGORY AS AN "OTHER DESIGNER" UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.
INDIVIDUAL BCIN: 19669 *Michael O'Rourke* MICHAEL O'ROURKE

CSA F280-12 Residential Heat Loss and Heat Gain Calculations																																																												
Formula Sheet (For Air Leakage / Ventilation Calculation)																																																												
LO#: 96166	Model: 6001 - QUEENSLAND	Builder: GOLD PARK HOMES	Date: 4/14/2022																																																									
Volume Calculation		Air Change & Delta T Data																																																										
House Volume <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Level</th> <th>Floor Area (ft²)</th> <th>Floor Height (ft)</th> <th>Volume (ft³)</th> </tr> </thead> <tbody> <tr><td>Bsmt</td><td>2574</td><td>10</td><td>24710.4</td></tr> <tr><td>First</td><td>2574</td><td>11</td><td>27284.4</td></tr> <tr><td>Second</td><td>3208</td><td>9</td><td>28872</td></tr> <tr><td>Third</td><td>0</td><td>9</td><td>0</td></tr> <tr><td>Fourth</td><td>0</td><td>9</td><td>0</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>80,866.8 ft³</td></tr> <tr><td colspan="3" style="text-align: right;">Total:</td><td>2289.9 m³</td></tr> </tbody> </table>		Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)	Bsmt	2574	10	24710.4	First	2574	11	27284.4	Second	3208	9	28872	Third	0	9	0	Fourth	0	9	0	Total:			80,866.8 ft³	Total:			2289.9 m³	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 70%;">WINTER NATURAL AIR CHANGE RATE</td> <td style="width: 30%;">0.486</td> </tr> <tr> <td>SUMMER NATURAL AIR CHANGE RATE</td> <td>0.162</td> </tr> </table> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="5" style="text-align: center;">Design Temperature Difference</th> </tr> <tr> <th></th> <th>Tin °C</th> <th>Tout °C</th> <th>ΔT °C</th> <th>ΔT °F</th> </tr> <tr> <td>Winter DTDh</td> <td>22</td> <td>-20</td> <td>42</td> <td>76</td> </tr> <tr> <td>Summer DTDc</td> <td>24</td> <td>31</td> <td>7</td> <td>13</td> </tr> </table>			WINTER NATURAL AIR CHANGE RATE	0.486	SUMMER NATURAL AIR CHANGE RATE	0.162	Design Temperature Difference						Tin °C	Tout °C	ΔT °C	ΔT °F	Winter DTDh	22	-20	42	76	Summer DTDc	24	31	7	13
Level	Floor Area (ft²)	Floor Height (ft)	Volume (ft³)																																																									
Bsmt	2574	10	24710.4																																																									
First	2574	11	27284.4																																																									
Second	3208	9	28872																																																									
Third	0	9	0																																																									
Fourth	0	9	0																																																									
Total:			80,866.8 ft³																																																									
Total:			2289.9 m³																																																									
WINTER NATURAL AIR CHANGE RATE	0.486																																																											
SUMMER NATURAL AIR CHANGE RATE	0.162																																																											
Design Temperature Difference																																																												
	Tin °C	Tout °C	ΔT °C	ΔT °F																																																								
Winter DTDh	22	-20	42	76																																																								
Summer DTDc	24	31	7	13																																																								
5.2.3.1 Heat Loss due to Air Leakage		6.2.6 Sensible Gain due to Air Leakage																																																										
$HL_{airb} = LR_{airh} \times \frac{V_b}{3.6} \times DTD_h \times 1.2$ 0.486 x 636.08 x 42 °C x 1.2 = 15651 W = 53402 Btu/h		$HG_{salb} = LR_{airc} \times \frac{V_b}{3.6} \times DTD_c \times 1.2$ = 0.162 x 636.08 x 7 °C x 1.2 = 878 W = 2995 Btu/h																																																										
5.2.3.2 Heat Loss due to Mechanical Ventilation		6.2.7 Sensible heat Gain due to Ventilation																																																										
$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E) \times 2 \text{ HRV / ERV's}$ 300 CFM x 76 °F x 1.08 x 0.25 = 6156 Btu/h		$HL_{vairb} = PVC \times DTD_h \times 1.08 \times (1 - E)$ 300 CFM x 13 °F x 1.08 x 0.25 = 1,037 Btu/h																																																										
5.2.3.3 Calculation of Air Change Heat Loss for Each Room (Floor Multiplier Section)																																																												
$HL_{airr} = Level \ Factor \times HL_{airbv} \times \{(HL_{agcr} + HL_{bgcr}) \div (HL_{agclevel} + HL_{bgclevel})\}$																																																												
Level	Level Factor (LF)	HLairve Air Leakage + Ventilation Heat Loss (Btu/h)	Level Conductive Heat Loss: (HL _{level})	Air Leakage Heat Loss Multiplier (LF x HLairbv / HLlevel)																																																								
1	0.5	53,402	10,596	2.520																																																								
2	0.3		22,792	0.703																																																								
3	0.2		21,097	0.506																																																								
4	0		0	0.000																																																								
5	0		0	0.000																																																								
*HLairbv = Air leakage heat loss + ventilation heat loss *For a balanced or supply only ventilation system HLairve = 0																																																												
				Michael O'Rourke BCIN# 19669 																																																								

HEAT LOSS AND GAIN SUMMARY SHEET

MODEL: 6001 - QUEENSLAND	OPT 2ND - WOB	BUILDER: GOLD PARK HOMES
SFQT: 5653	LO# 96166	SITE: PINE VALLEY PH 2

DESIGN ASSUMPTIONS

HEATING	°F	COOLING	°F
OUTDOOR DESIGN TEMP.	-4	OUTDOOR DESIGN TEMP.	88
INDOOR DESIGN TEMP.	72	INDOOR DESIGN TEMP. (MAX 75°F)	75
		WINDOW SHGC	0.50

BUILDING DATA

ATTACHMENT:	DETACHED	# OF STORIES (+BASEMENT):	3
FRONT FACES:	EAST	ASSUMED (Y/N):	Y
AIR CHANGES PER HOUR:	3.57	ASSUMED (Y/N):	Y
AIR TIGHTNESS CATEGORY:	AVERAGE	ASSUMED (Y/N):	Y
WIND EXPOSURE:	SHELTERED	ASSUMED (Y/N):	Y
HOUSE VOLUME (ft ³):	80866.8	ASSUMED (Y/N):	Y
INTERNAL SHADING:	BLINDS/CURTAINS	ASSUMED OCCUPANTS:	6
INTERIOR LIGHTING LOAD (Btu/h/ft ²):	1.85	DC BRUSHLESS MOTOR (Y/N):	Y
FOUNDATION CONFIGURATION	BCIN_1	DEPTH BELOW GRADE:	8.1 ft
LENGTH: 66.0 ft	WIDTH: 55.0 ft	EXPOSED PERIMETER:	175.0 ft
WOB INSULATION CONFIGURATION	SCB_9	WOB EXPOSED PERIMETER	67.0 ft

2012 OBC - COMPLIANCE PACKAGE		Compliance Package A1	
Component		Nominal	Min. Eff.
Ceiling with Attic Space Minimum RSI (R)-Value		60	59.22
Ceiling Without Attic Space Minimum RSI (R)-Value		31	27.65
Exposed Floor Minimum RSI (R)-Value		31	29.80
Walls Above Grade Minimum RSI (R)-Value		22	17.03
Basement Walls Minimum RSI (R)-Value		20 ci	21.12
Below Grade Slab Entire surface > 600 mm below grade Minimum RSI (R)-Value		-	-
Edge of Below Grade Slab ≤ 600 mm Below Grade Minimum RSI (R)-Value		10	10
Heated Slab or Slab ≤ 600 mm below grade Minimum RSI (R)-Value		10	11.13
Windows and Sliding Glass Doors Maximum U-Value		0.28	-
Skylights Maximum U-Value		0.49	-
Space Heating Equipment Minimum AFUE		0.96	-
HRV Minimum Efficiency		75%	-
Domestic Hot Water Heater Minimum EF		0.8	-

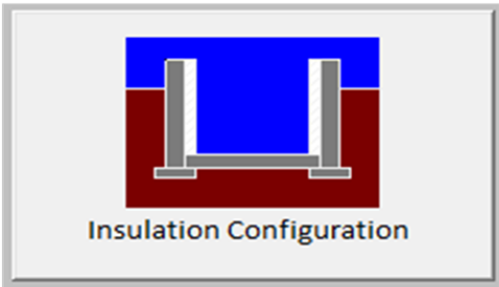
INDIVIDUAL BCIN: 19669

MICHAEL O'ROURKE



Residential Foundation Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

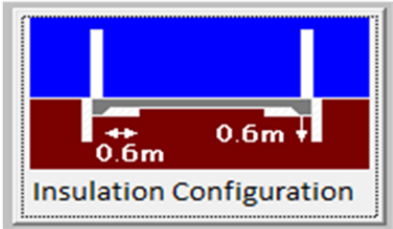
Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Floor Length (m):	4.9	 Insulation Configuration
Floor Width (m):	16.8	
Exposed Perimeter (m):	53.3	
Wall Height (m):	2.9	
Depth Below Grade (m):	2.19	
Window Area (m ²):	0.3	
Door Area (m ²):	1.9	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Foundation Loads		
Heating Load (Watts):		836

TYPE: 6001 - QUEENSLAND
LO# 96166

OPT 2ND - WOB

Residential Slab on Grade Thermal Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description		
Province:	Ontario	
Region:	Vaughan (Woodbridge)	
Site Description		
Soil Conductivity:	Normal conductivity: dry sand, loam, clay	
Water Table:	Normal (7-10 m, 23-33 ft)	
Foundation Dimensions		
Length (m):	1.8	
Width (m):	16.8	
Exposed Perimeter (m):	20.4	
Radiant Slab		
Heated Fraction of the Slab:	0	
Fluid Temperature (°C):	33	
Design Months		
Heating Month	1	
Results		
Heating Load (Watts):		318

TYPE: 6001 - QUEENSLAND
LO# 96166

OPT 2ND - WOB

Air Infiltration Residential Load Calculator

Supplemental tool for CAN/CSA-F280

Weather Station Description				
Province:	Ontario			
Region:	Vaughan (Woodbridge)			
Weather Station Location:	Open flat terrain, grass			
Anemometer height (m):	10			
Local Shielding				
Building Site:	Suburban, forest			
Walls:	Heavy			
Flue:	Heavy			
Highest Ceiling Height (m):	11.95			
Building Configuration				
Type:	Detached			
Number of Stories:	Two			
Foundation:	Full			
House Volume (m ³):	2289.9			
Air Leakage/Ventilation				
Air Tightness Type:	Present (1961-) (3.57 ACH)			
Custom BDT Data:	ELA @ 10 Pa.	3052.5 cm ²		
	3.57	ACH @ 50 Pa		
Mechanical Ventilation (L/s):	Total Supply	Total Exhaust		
	70.8	70.8		
Flue Size				
Flue #:	#1	#2	#3	#4
Diameter (mm):	0	0	0	0
Natural Infiltration Rates				
Heating Air Leakage Rate (ACH/H):	0.486			
Cooling Air Leakage Rate (ACH/H):	0.162			

TYPE: 6001 - QUEENSLAND
LO# 96166

OPT 2ND - WOB

ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.® AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.

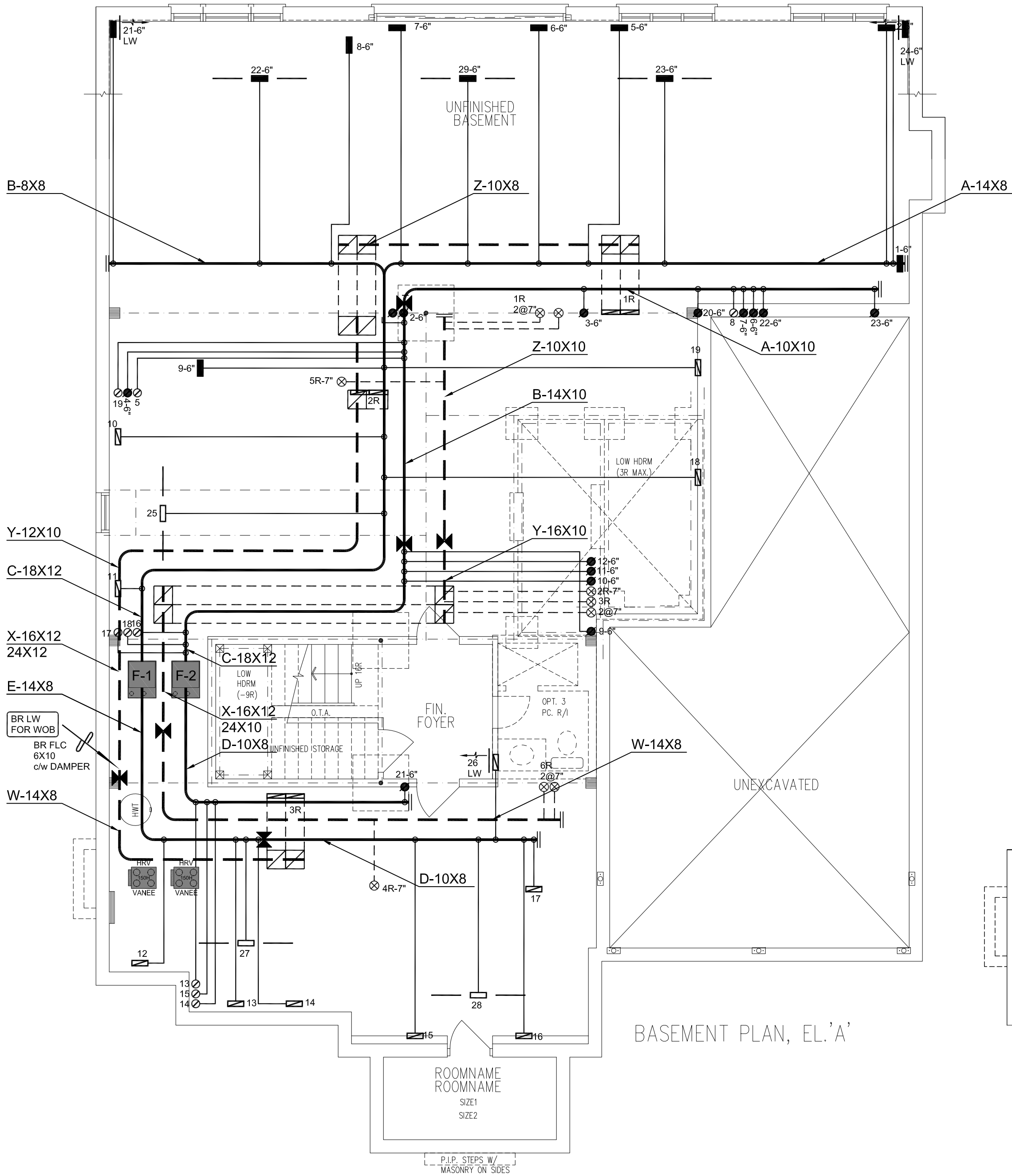
INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY BRANCH OUTLETS SHALL BE EQUIPPED WITH MANUAL BALANCING DAMPER. DUCTWORK WHICH PASSES THROUGH THE GARAGE OR UNHEATED SPACES SHALL BE ADEQUATELY INSULATED AND GAS-PROOFED

ALL S/A DIFFUSERS "4x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A

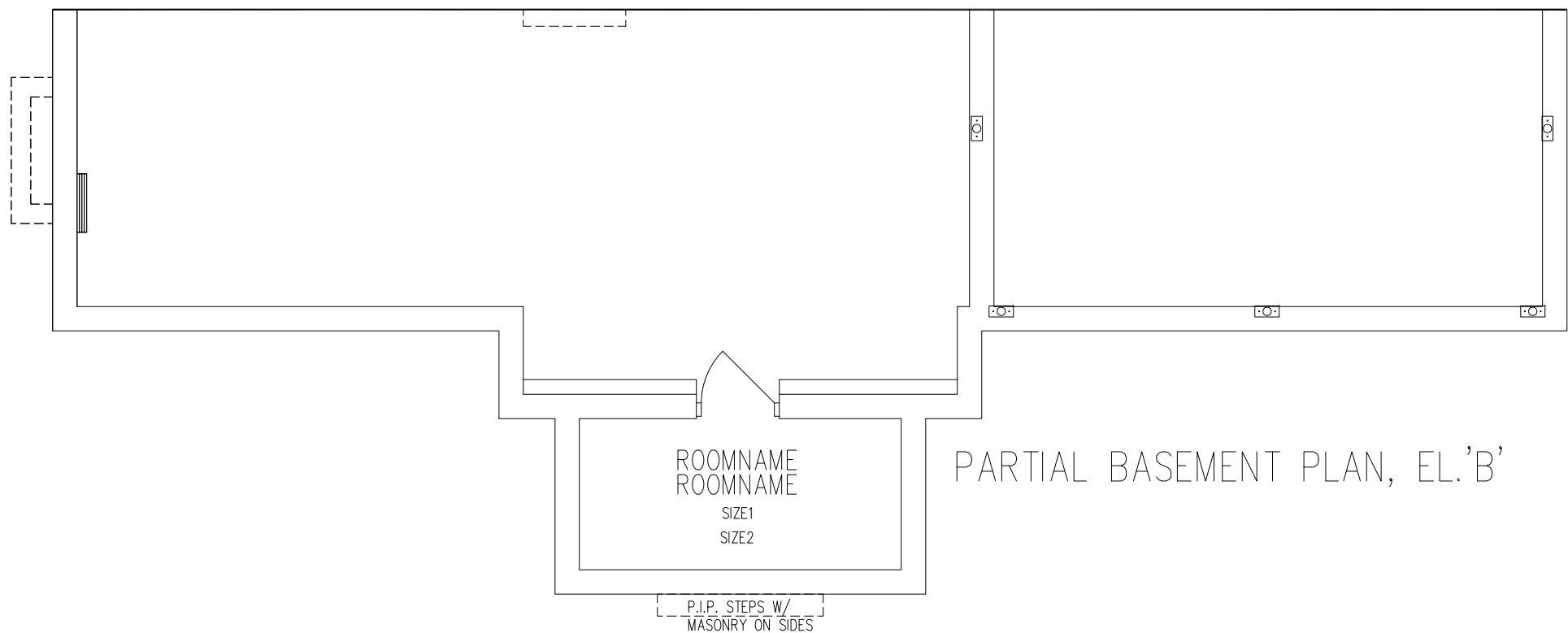
FURNACE 1 (F-1)
LENNOX ML196UH090XE48C
85600 BTU/H OUTPUT
3.5 TONS A/C @ 1340 cfm

FURNACE 2 (F-2)
LENNOX ML196UH045XE36B
42800 BTU/H OUTPUT
3.0 TONS A/C @ 1110 cfm

	S/A	R/A	FANS
2ND	23	6	7
1ST	17	3	2
BAS	9	1	0



BASEMENT PLAN, EL. 'A'



PARTIAL BASEMENT PLAN, EL. 'B'

HVAC LEGEND	
	4X10 SUPPLY GRILLE
	14X8 RETURN GRILLE
	4X10 SUPPLY GRILLE FIB BOOT
	30X8 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
	EXHAUST FAN
	LOW WALL
	HIGH WALL

UNLESS OTHERWISE NOTED, THE DESIGNER SHALL BE RESPONSIBLE FOR THE DESIGN WORK AND ANY NECESSARY REVISIONS. THE DESIGNER SHALL BE RESPONSIBLE FOR THE DESIGN WORK AND ANY NECESSARY REVISIONS. THE DESIGNER SHALL BE RESPONSIBLE FOR THE DESIGN WORK AND ANY NECESSARY REVISIONS.

1. ISSUED FOR PERMIT APRIL 2022 EG

SB-12 PACKAGE A1

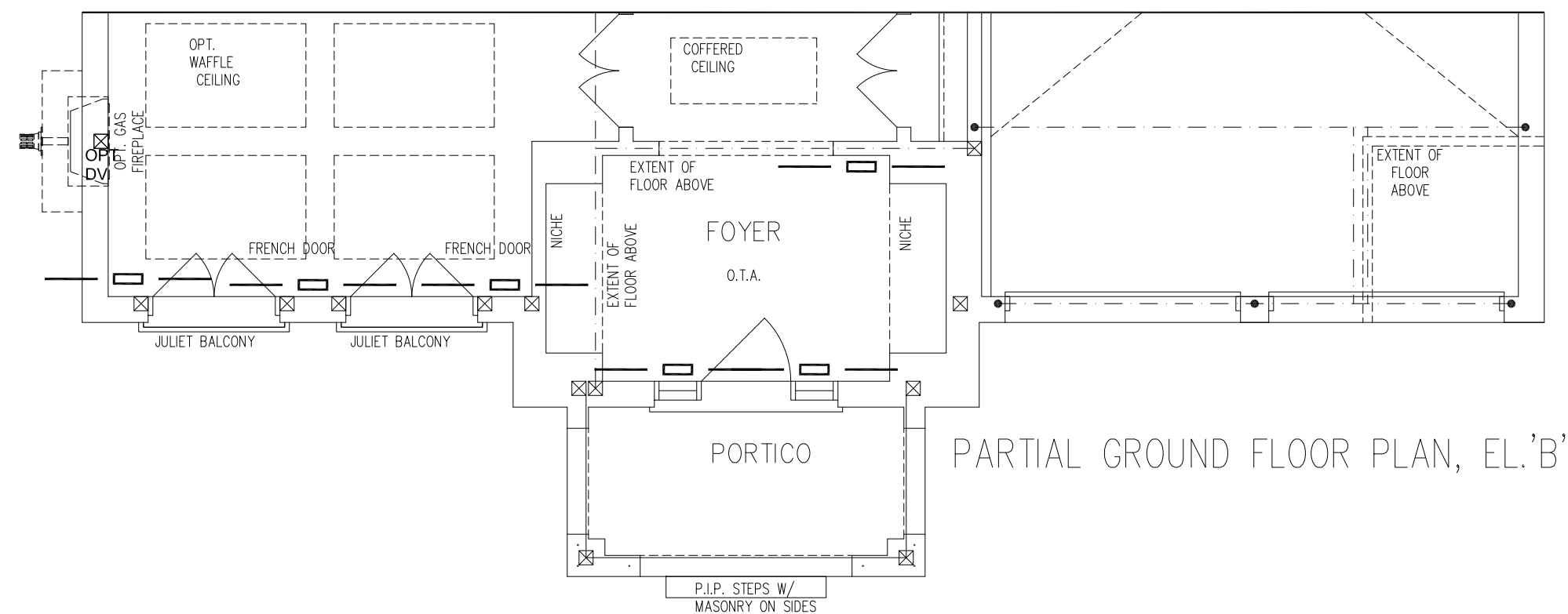
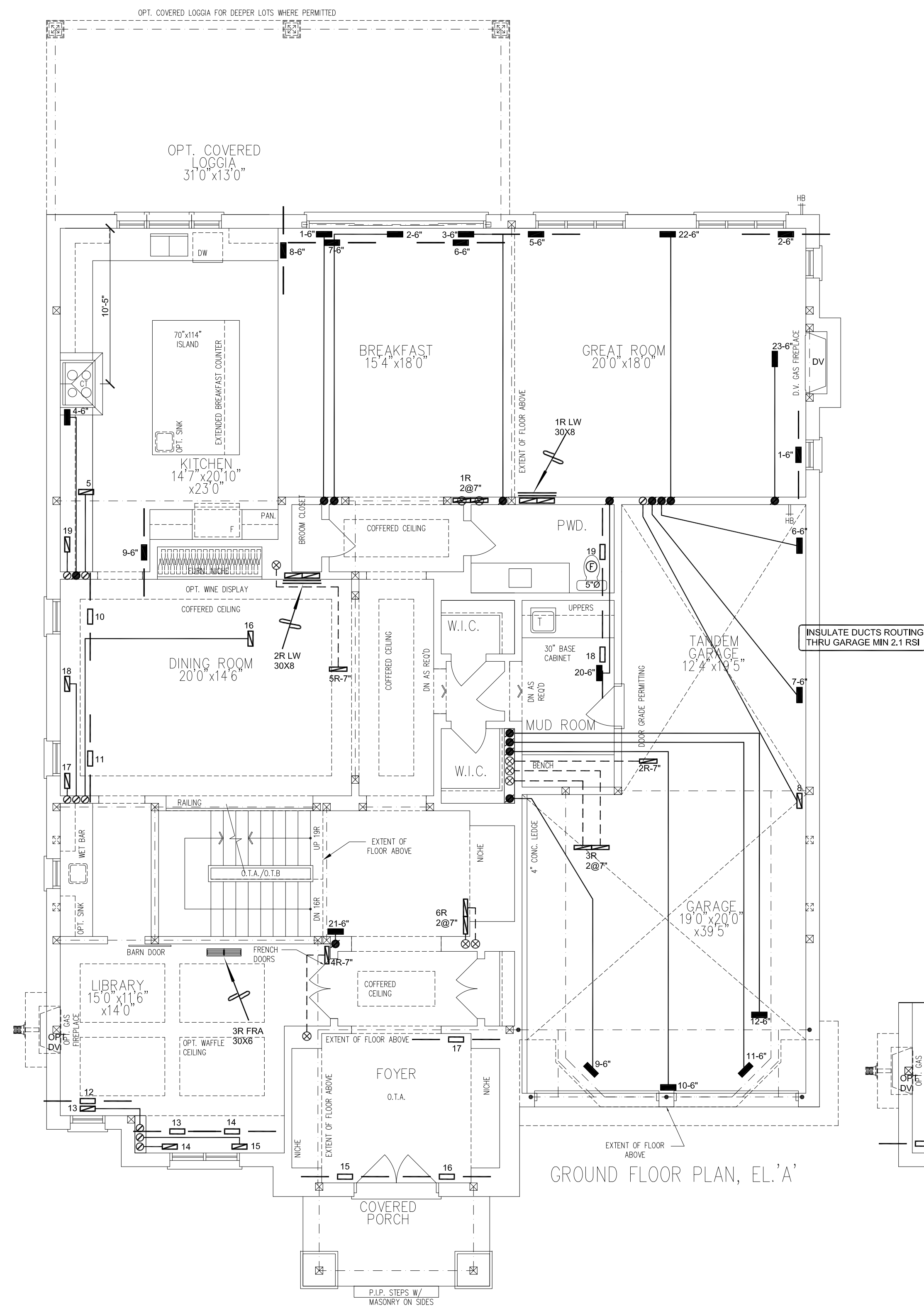
HVACDESIGNS LTD.
375 Finley Ave - Unit 202 - Ajax, Ontario L1S 2E2
Tel: 905.619.2300 - 905.420.5300 Fax: 905.619.2375
Email: info@hvacdesigns.ca
Web: www.hvacdesigns.ca
Specializing in Residential Mechanical Design Services

Client: GOLDPARK HOMES
Project Name: PINE VALLEY PH2
VAUGHAN, ONTARIO
6001 - QUEENSLAND
OPT 2ND
5653 SQFT

Sheet Title: BASEMENT HVAC LAYOUT
Drawn By: EG
Scale: 3/16"=1'-0"
Date: APRIL 2022
LO # 96166

INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY BRANCH OUTLETS SHALL BE EQUIPPED WITH MANUAL BALANCING DAMPER. DUCTWORK WHICH PASSES THROUGH THE GARAGE OR UNHEATED SPACES SHALL BE ADEQUATELY INSULATED AND GAS-PROOFED

ALL S/A DIFFUSERS "4x10"
UNLESS NOTED OTHERWISE
ON LAYOUT. ALL S/A RUNS 5"Ø
UNLESS NOTED OTHERWISE
ON LAYOUT. UNDERCUT
DOORS 1" min. FOR R/A



	S/A	R/A	FANS
2ND	23	6	7
1ST	17	3	2
BAS	9	1	0

HVAC LEGEND	
	4X10 SUPPLY GRILLE
	14X8 RETURN GRILLE
	4X10 SUPPLY GRILLE 6\"/>
	30X8 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
	EXHAUST FAN
LW	LOW WALL
HW	HIGH WALL

I, MICHAEL O'BROURKE, HAVE REVIEWED AND TAKE RESPONSIBILITY FOR THE DESIGN WORK AND AM QUALIFIED UNDER DIVISION C, 3.2.5 OF THE BUILDING CODE.

Michael O'Brourke, BCTN# 19609
HVAC DESIGNS LTD.



1	ISSUED FOR PERMIT	APRIL 2022
No.	Revision	Date

SB-12 PACKAGE

A1



375 Finley Ave - Unit 202 - Ajax, Ontario L1S 2E2
Tel. 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacdesigns.ca
Web: www.hvacdesigns.ca
Specializing in Residential Mechanical Design Services

Client **GOLDPARK HOMES**

Project PINE VALLEY PH2

VAUGHAN, ONTARIO
6001 QUEENSLAND

6001 - QUEENSLAND
OPT 2ND

5653 SQFT
Copyright & Copy: © 2022 HVAC D

Sheet Title	FIRST FLOOR HVAC LAYO
Designer	

Drawn By	EG
Scale	0.64" = 1'-0"

Date APRIL 2022

LO 1

96166

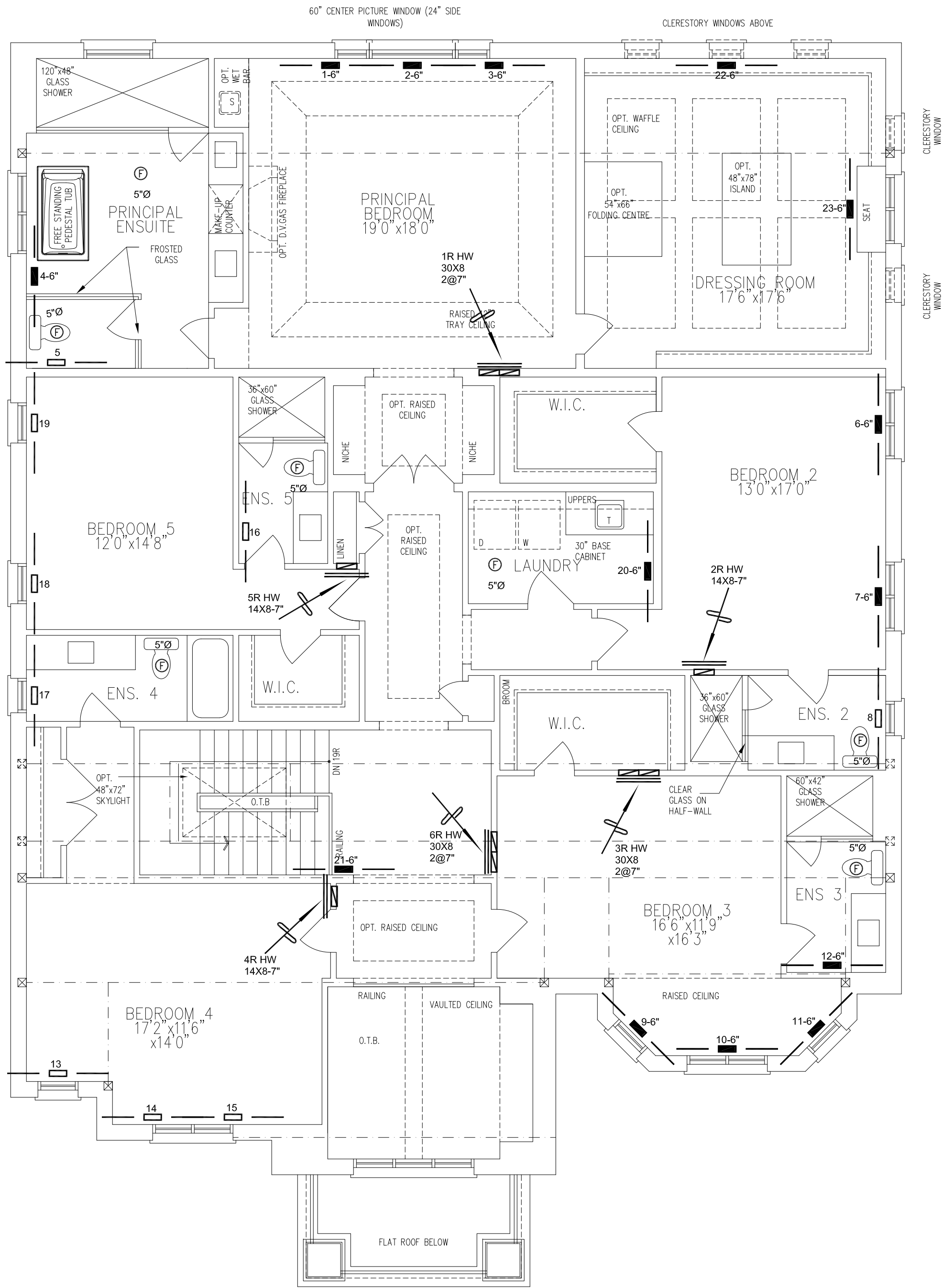
2

ALL DRAWINGS, CALCULATIONS AND SPECIFICATIONS ARE THE PROPERTY OF HVAC DESIGNS LTD.® AND MAY NOT BE REPRODUCED, MODIFIED OR ALTERED WITHOUT EXPRESSED WRITTEN CONSENT. THE DRAWINGS ARE DATED AND USE OF THESE DRAWINGS AFTER ONE YEAR FROM THE DATED NOTED IS NOT AUTHORIZED. CONTRACTOR SHALL CHECK ALL CONDITIONS BEFORE PROCEEDING WITH WORK. LATEST MUNICIPAL APPROVED DRAWINGS ONLY TO BE USED DURING INSTALLATION OF HEATING SYSTEM. HVAC DESIGNS LTD. IS NOT LIABLE FOR ANY CLAIMS ARISING FROM UNAUTHORIZED USE OF THE DRAWINGS OR FROM ANY CHANGES TO ACCEPTED STANDARDS AND/OR THE ONTARIO BUILDING CODE.

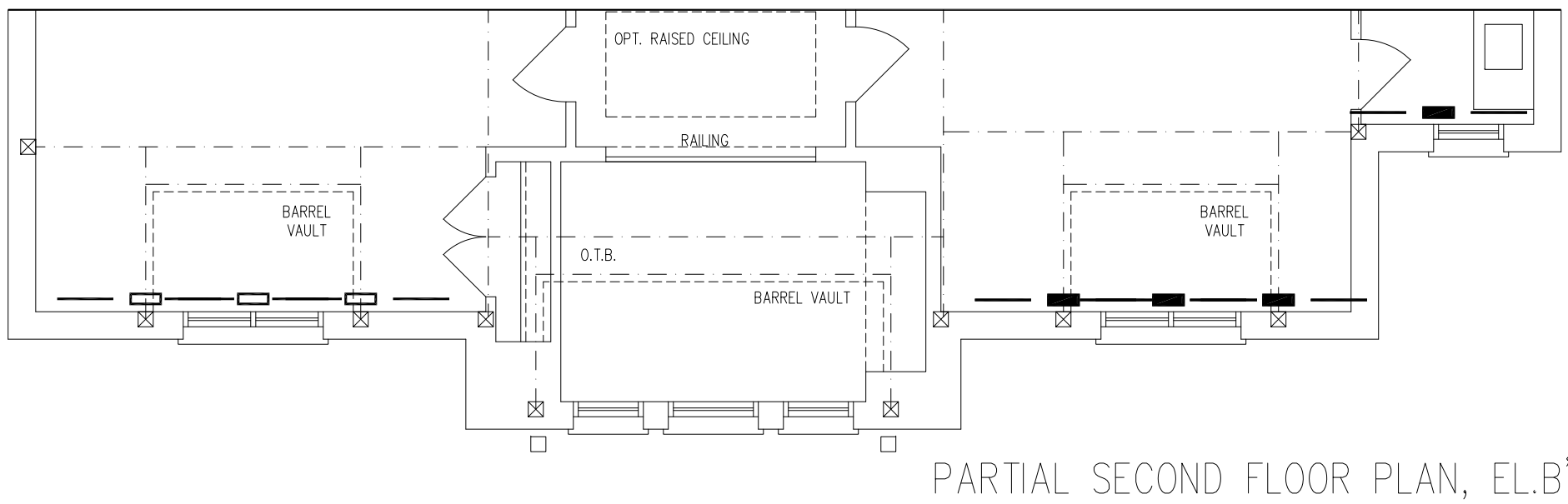
INSTALLATION TO COMPLY WITH THE LATEST ONTARIO BUILDING CODE. ALL SUPPLY BRANCH OUTLETS SHALL BE EQUIPPED WITH MANUAL BALANCING DAMPER. DUCTWORK WHICH PASSES THROUGH THE GARAGE OR UNHEATED SPACES SHALL BE ADEQUATELY INSULATED AND GAS-PROOFED

ALL S/A DIFFUSERS "4x10" UNLESS NOTED OTHERWISE ON LAYOUT. ALL S/A RUNS 5"Ø UNLESS NOTED OTHERWISE ON LAYOUT. UNDERCUT DOORS 1" min. FOR R/A

	S/A	R/A	FANS
2ND	23	6	7
1ST	17	3	2
BAS	9	1	0



OPT. SECOND FLOOR PLAN, EL.'A'



PARTIAL SECOND FLOOR PLAN, EL.B'

HVAC LEGEND	
	4X10 SUPPLY GRILLE
	14X8 RETURN GRILLE
	4X10 SUPPLY GRILLE FTD BOOT
	30X8 RETURN GRILLE
	SUPPLY DUCTWORK
	RETURN DUCTWORK
	EXHAUST FAN
LW	LOW WALL
HW	HIGH WALL

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN METERS. THE DESIGNER SHALL BE RESPONSIBLE FOR THE DESIGN WORK AND ANY ASSOCIATED WORK. THE DESIGNER SHALL BE RESPONSIBLE FOR THE DESIGN WORK AND ANY ASSOCIATED WORK. THE DESIGNER SHALL BE RESPONSIBLE FOR THE DESIGN WORK AND ANY ASSOCIATED WORK.

1. ISSUED FOR PERMIT APRIL 2022 EG

No. Revision Date By

SB-12 PACKAGE

A1

HVACDESIGNS LTD.

375 Finley Ave - Unit 202 - Ajax, Ontario L1S 2E2
Tel: 905.619.2300 - 905.420.5300 Fax 905.619.2375
Email: info@hvacadesigns.ca
Web: www.hvacadesigns.ca
Specializing in Residential Mechanical Design Services

Client: GOLDPARK HOMES

Project Name: PINE VALLEY PH2

VAUGHAN, ONTARIO

6001 - QUEENSLAND

OPT 2ND

5653 SQFT

Copyright & Copy © 2022 HVAC Designs Ltd.

Sheet Title: SECOND FLOOR HVAC LAYOUT

Drawn By: EG Checked By: MO

Scale: 3/16"=1'-0"

Date: APRIL 2022

LO # 96166

3